

# Technical Details



Gesellschaft für Lüftungsformteile  
aus Kunststoff mbH

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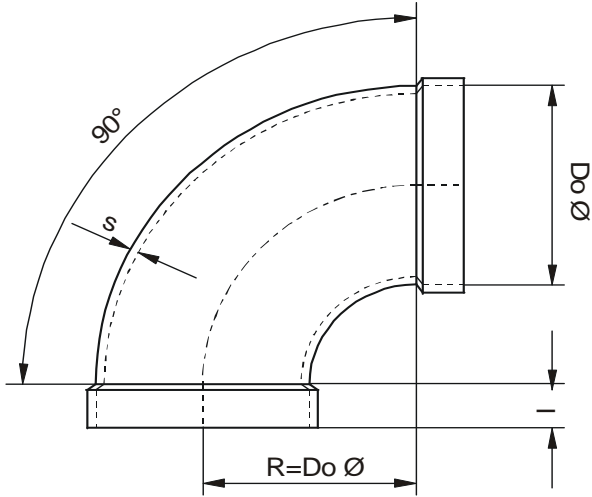
Tel.: 0049(0)2242/9251-0

Fax.: 0049(0)2242/925120

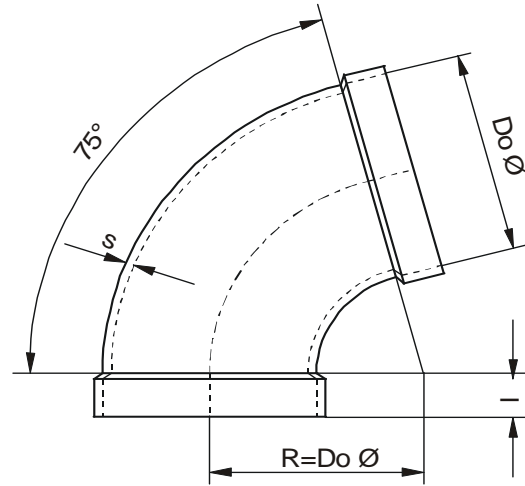
homepage: <http://www.hoka.de>

E-Mail: [hoka@hoka.de](mailto:hoka@hoka.de)

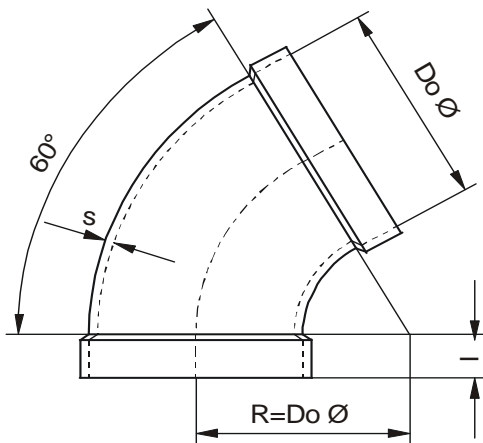
Material: PVC / PPs / PP / PE



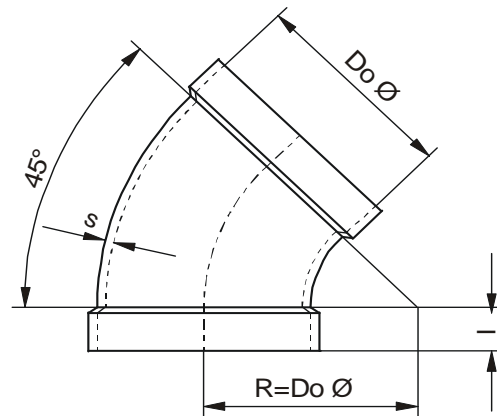
Zeta-factor = 0,25



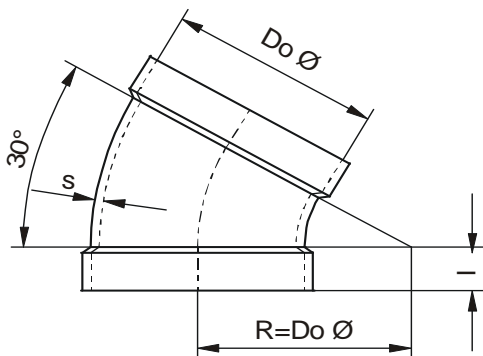
Zeta-factor = 0,20



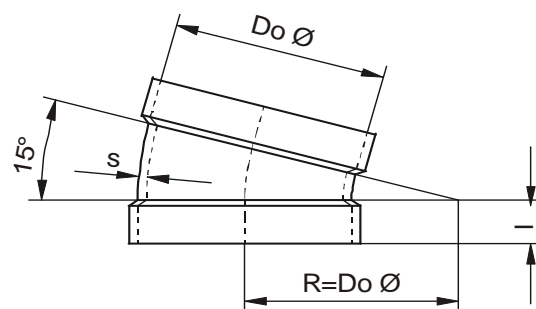
Zeta-factor = 0,18



Zeta-factor = 0,15



Zeta-factor = 0,10



Zeta-factor = 0,05

all dimension in mm

prices are on page 1

We reserve the right to change dimension and design !

Do Ø	PVC		PE / PP / PPs		all
	Tolerance	min. s	Tolerance	s	l
50					
63					
75	0,3	1,8	0,7	3,0	40
90	0,3	1,8	0,9	3,0	40
110	0,3	1,8	1,0	3,0	40
125	0,3	1,8	1,2	3,0	40
140	0,4	1,8	1,3	3,0	40
160	0,4	1,8	1,5	3,0	40
180	0,4	1,8	1,7	3,0	40
200	0,4	1,8	1,8	3,0	40
225	0,5	1,8	1,9	3,5	40
250	0,5	2,0	2,0	3,5	40
280	0,6	2,3	2,2	3,5	50
315	0,6	2,5	2,4	4,0	50
355	0,7	2,9	2,7	4,0	50
400	0,7	3,2	3,0	4,5	50
450	0,8	3,6	3,5	5,0	60
500	0,9	4,0	4,0	5,0	60
560			4,5	6,0	80
600	1,0	6,0	4,5	6,0	80

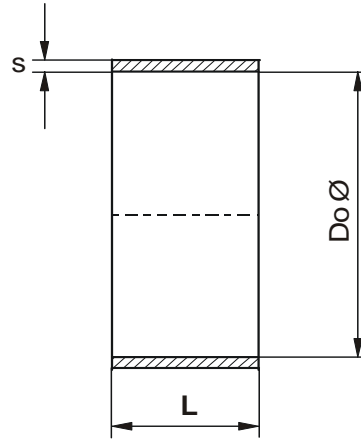
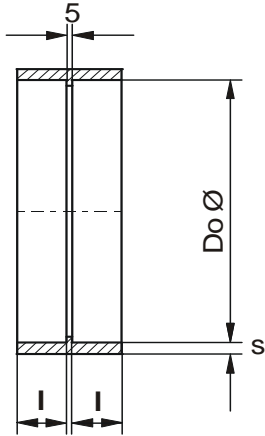
### From D Ø 630 upon request

PVC Do Ø 700 - 1250 upon request  
 PE,PP,PPs Do Ø 630 - 1250 upon request

PVC R = Do Ø, 5000 Pa depression, < 25 °C  
 R = Do Ø, 1600 Pa depression, < 45 °C

PP, PPs R = Do Ø, 5000 Pa depression, < 45 °C to Do Ø 225 mm  
 R = Do Ø, 1600 Pa depression, < 45 °C to Do Ø 400 mm  
 R = Do Ø, 1000 Pa depression, > 45 °C

Material: PVC / PPS / PP / PE

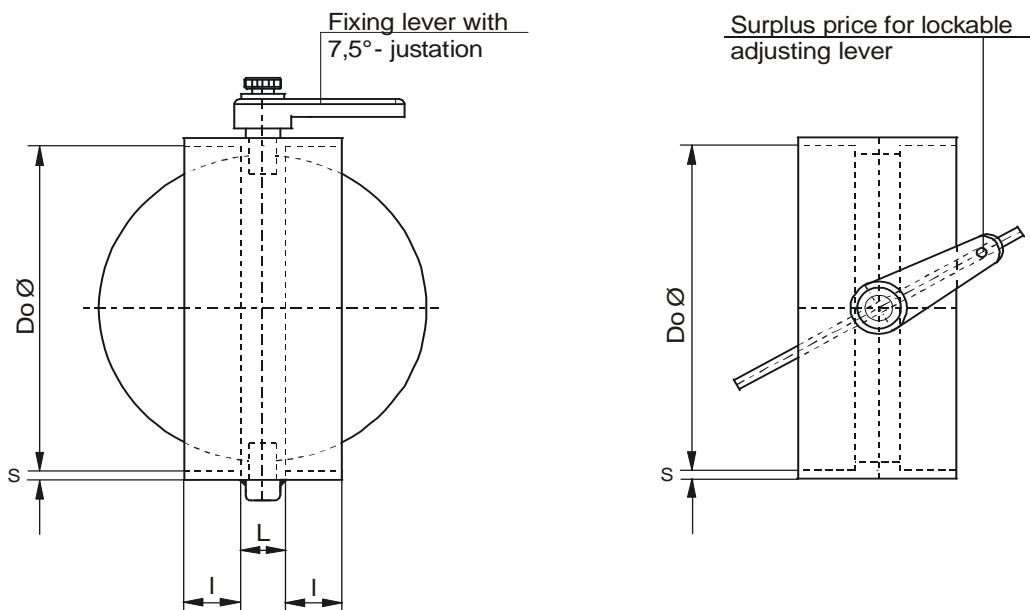


Do Ø	l	Tolerance		Section s	
		PVC	PPs/PP/PE	PVC	PPs/PP/PE
50	40	+ 0,3	+ 0,7	2,5	3,0
63	40	+ 0,3	+ 0,7	2,5	3,0
75	40	+ 0,3	+ 0,7	2,5	3,0
90	40	+ 0,3	+ 0,9	2,5	3,0
110	40	+ 0,3	+ 1,0	2,5	3,0
125	40	+ 0,3	+ 1,2	2,5	3,0
140	40	+ 0,4	+ 1,3	2,5	3,0
160	40	+ 0,4	+ 1,5	2,5	3,0
180	40	+ 0,4	+ 1,7	2,5	3,0
200	40	+ 0,4	+ 1,8	2,5	3,0
225	40	+ 0,5	+ 1,9	2,5	3,5
250	40	+ 0,5	+ 2,0	2,5	3,5
280	50	+ 0,6	+ 2,2	2,5	3,5
315	50	+ 0,6	+ 2,4	2,5	4,0
355	50	+ 0,7	+ 2,7	3,0	4,0
400	50	+ 0,7	+ 3,0	3,0	4,5

Do Ø	L	Section s	
		PVC	PPs/PP/PE
450	120	3,6	5,0
500	120	4,0	5,0
560	120		6,0
600	120	5,0	6,0
630	120		6,0
700	150	6,0	8,0
710	150		8,0
800	150	6,0	8,0
fabricated			

From Do Ø 900 upon request

**Material: PVC / PPs / PP / PE**



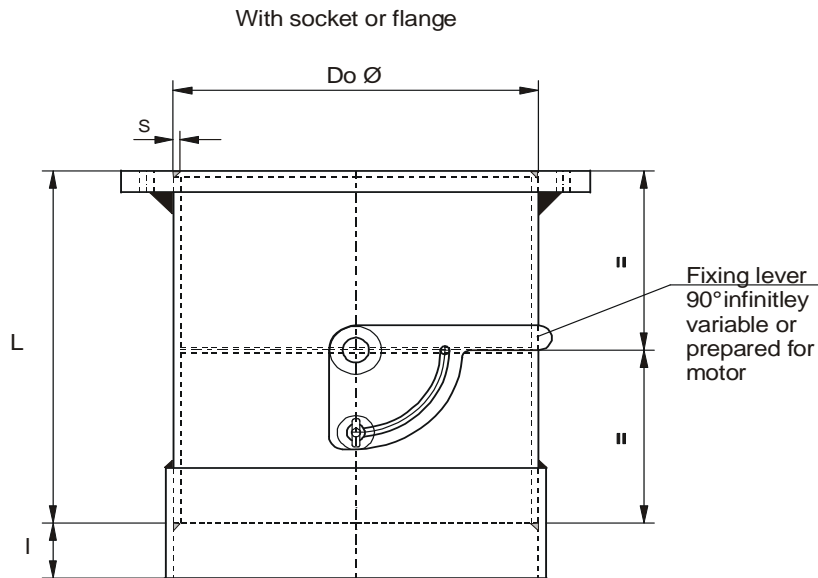
Zeta - factor in flap position	0,5	1,5	4	11	33	120	250
	10°	20°	30°	40°	50°	60°	70°

Do Ø	Tolerance		L	I	Section s	
	PVC	PPs/PP/PE			PVC	PPs / PP / PE
75	+ 0,3	+ 0,7	40	40	2,5	3,0
90	+ 0,3	+ 0,9	40	40	2,5	3,0
110	+ 0,3	+ 1,0	40	40	2,5	3,0
125	+ 0,3	+ 1,2	40	40	2,5	3,0
140	+ 0,4	+ 1,3	40	40	2,5	3,0
160	+ 0,4	+ 1,5	40	40	2,5	3,0
180	+ 0,4	+ 1,7	40	40	2,5	3,5
200	+ 0,5	+ 1,8	40	40	2,5	3,5
225	+ 0,5	+ 1,9	40	40	2,5	3,5
250	+ 0,5	+ 2,0	40	40	2,5	3,5
280	+ 0,6	+ 2,2	40	50	2,5	3,5
315	+ 0,6	+ 2,4	40	50	2,5	4,0
355	+ 0,7	+ 2,4	40	50	3,0	4,0
400	+ 0,7	+ 2,4	40	50	3,0	4,5

**Dampers according to DIN 1946 part 4.  
all dimension in mm**

**prices are on page 3**

Material: PVC / PPs / PP / PE



Zeta - factor in flap position	0,5	1,5	4	11	33	120	250
	10°	20°	30°	40°	50°	60°	70°

Do Ø	L	I	Section s	
			PVC	PPs/PP/PE
450	320	60	3,6	5,0
500	360	60	4,0	5,0
560	410	70		6,0
600	450	70	5,0	6,0
630	480	70		6,0
700	520	70	6,0	8,0
710	530	70		8,0
800	560	70	6,0	8,0

From Do Ø 900 upon request

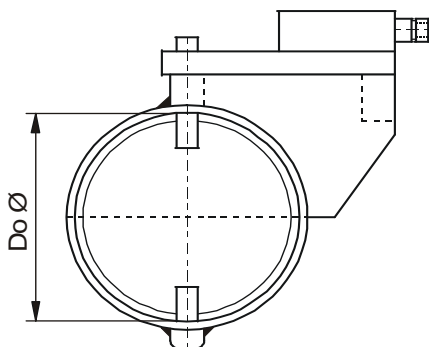
Dampers according to DIN 1946 part 4.  
all dimension in mm

prices are on page 3

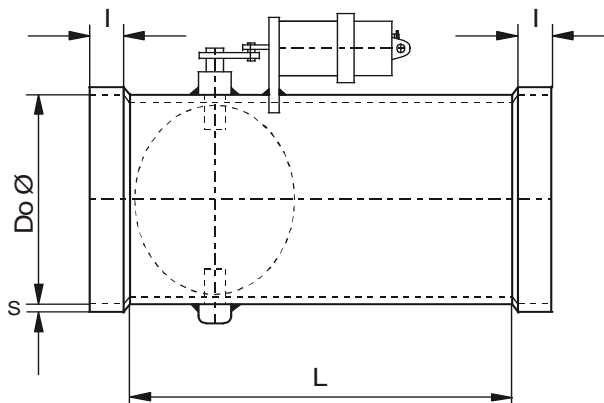
We reserve the right change dimension and design !

**Material: PVC / PPs / PP / PE**

For electric or pneumatic drive



Model 1



Model 2

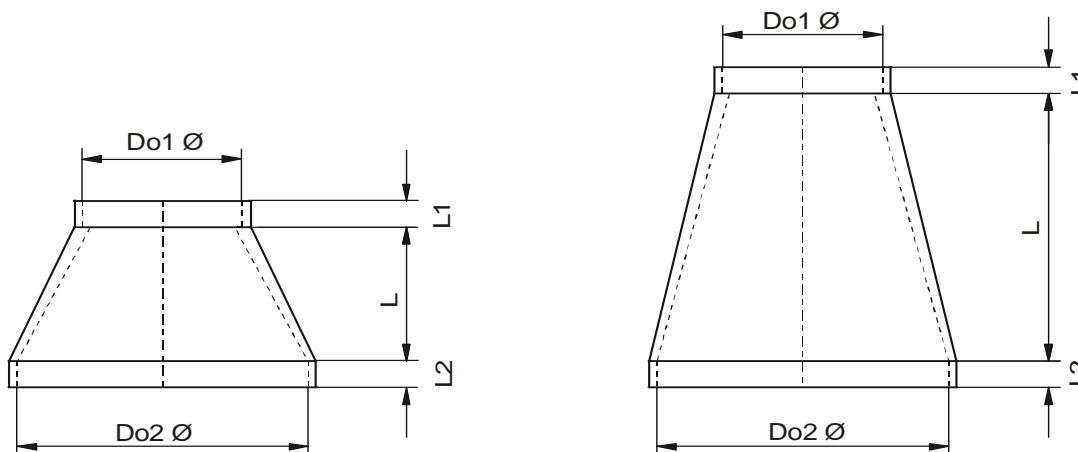
Zeta - factort in flap position	0,5	1,5	4	11	33	120	250
	10°	20°	30°	40°	50°	60°	70°

Do Ø	Tolerance		I	L1	I	Section s	
	PVC	PPs/PP/PE				PVC	PPs/PP/PE
75	+ 0,3	+ 0,7	40	250	40	2,5	3,0
90	+ 0,3	+ 0,9	40	250	40	2,5	3,0
110	+ 0,3	+ 1,0	40	250	40	2,5	3,0
125	+ 0,3	+ 1,2	40	250	40	2,5	3,0
140	+ 0,4	+ 1,3	40	250	40	2,5	3,0
160	+ 0,4	+ 1,5	40	250	40	2,5	3,0
180	+ 0,4	+ 1,7	40	250	40	2,5	3,5
200	+ 0,5	+ 1,8	40	250	40	2,5	3,5
225	+ 0,5	+ 1,9	40	250	40	2,5	3,5
250	+ 0,5	+ 2,0	40	250	40	2,5	3,5
280	+ 0,6	+ 2,2	50	300	50	2,5	4,0
315	+ 0,6	+ 2,4	50	300	50	2,5	5,0
355	0,7	+ 2,7	50	300	50	3,0	5,0
400	0,7	+ 3,0	50	300	50	3,0	6,0

Dampers according to DIN 1946 part 4.  
all dimension in mm

prices are on page 4

Material: PVC / PPs / PP / PE



Zeta-factor Do2~Do1 = 0~0,5

Do 1 Ø	Do 2 Ø	L	L1	L2
75	90	40	40	40
75	110	80	40	40
90	110	60	40	40
110	125	40	40	40
110	140	80	40	40
110	160	140	40	40
110	180	50	40	40
110	200	65	40	40
125	140	40	40	40
125	160	100	40	40
125	180	40	40	40
125	200	55	40	40
125	225	65	40	40
125	250	90	40	40
140	160	60	40	40
140	180	30	40	40
140	200	45	40	40
140	225	60	40	40
140	250	80	40	40
160	180	60	40	40
160	200	120	40	40
160	225	100	40	40
160	250	120	40	40
160	280	85	40	50
160	315	115	40	50
180	200	75	40	40
180	225	85	40	40
180	250	100	40	40
180	280	65	40	50
180	315	100	40	50

Do 1 Ø	Do 2 Ø	L	L1	L2
200	225	80	40	40
200	250	140	40	40
200	280	105	40	50
200	315	160	40	50
200	355	115	40	50
225	250	80	40	40
225	280	40	40	50
225	315	65	40	50
225	355	95	40	50
225	400	125	40	50
250	280	35	40	50
250	315	100	40	50
250	355	140	40	50
250	400	105	40	50
250	450	145	40	50
280	315	100	50	50
280	355	65	50	50
280	400	90	50	50
280	450	120	50	50
280	500	160	50	50
315	355	20	50	50
315	400	120	50	50
315	450	95	50	50
315	500	135	50	50
355	400	135	50	50
355	450	75	50	50
355	500	110	50	50

different dimensions upon request

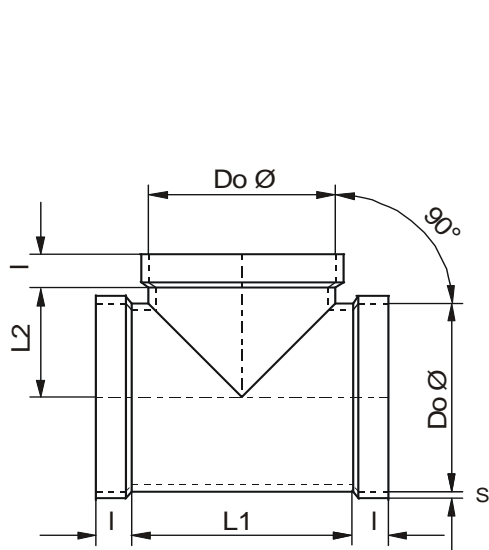
all dimension in mm

prices are on page 5 and 6

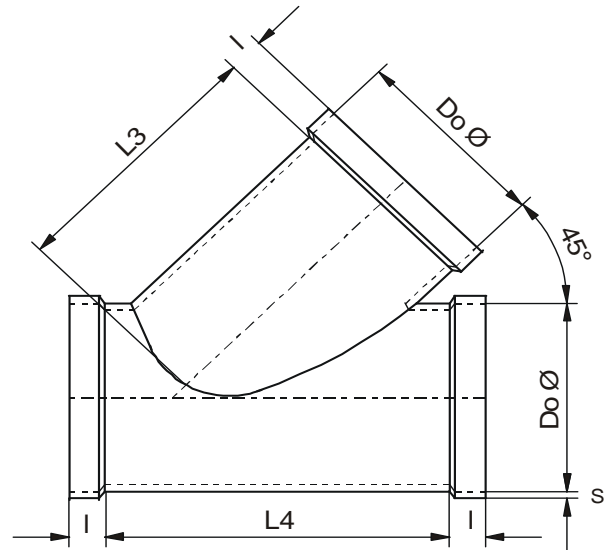
We reserve the right change dimension and design !



Material: PVC / PPs / PP / PE



Zeta-factor=1,1



Zeta-factor=0,9

Do Ø	Tolerance							Section S	
	PVC	PPs/PP/PE	I	L1	L2	L3	L4	PVC	PPs/PP/PE
50	+ 0,3	+ 0,7	40	105	52,5	120	165	2,5	3,0
63	+ 0,3	+ 0,7	40	105	52,5	120	165	2,5	3,0
75	+ 0,3	+ 0,7	40	105	52,5	120	165	2,5	3,0
90	+ 0,3	+ 0,9	40	120	60,0	140	190	2,5	3,0
110	+ 0,3	+ 1,0	40	140	70,0	170	235	2,5	3,0
125	+ 0,3	+ 1,2	40	155	77,5	190	255	2,5	3,0
140	+ 0,4	+ 1,3	40	170	85,0	210	280	2,5	3,0
160	+ 0,4	+ 1,5	40	190	95,0	240	325	2,5	3,0
180	+ 0,4	+ 1,7	40	210	105,0	265	355	2,5	3,0
200	+ 0,4	+ 1,8	40	230	115,0	290	380	2,5	3,0
225	+ 0,5	+ 1,9	40	270	127,5	330	440	2,5	3,5
250	+ 0,5	+ 2,0	40	290	140,0	360	475	2,5	3,5
280	+ 0,6	+ 2,2	50	320	165,0	400	515	2,5	4,0
315	+ 0,6	+ 2,4	50	370	172,5	440	565	2,5	5,0
355	+ 0,7	+ 2,7	50	400	192,5	490	620	3,0	5,0
400	+ 0,7	+ 3,0	50	440	215,0	540	685	3,0	6,0
450	+ 0,8	+ 3,5	60	570	285,0	610	770	3,6	5,0
500	+ 0,9	+ 4,0	60	620	310,0	680	880	4,0	5,0
560		+ 4,5	60	680	340,0				6,0
600	+ 1,0	+ 4,5	60	760	380,0	850	1200	5,0	6,0

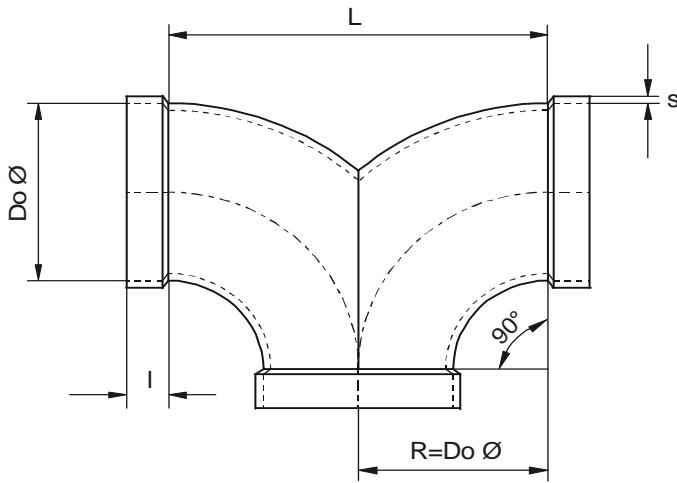
From Do Ø 630 upon request

all dimension in mm

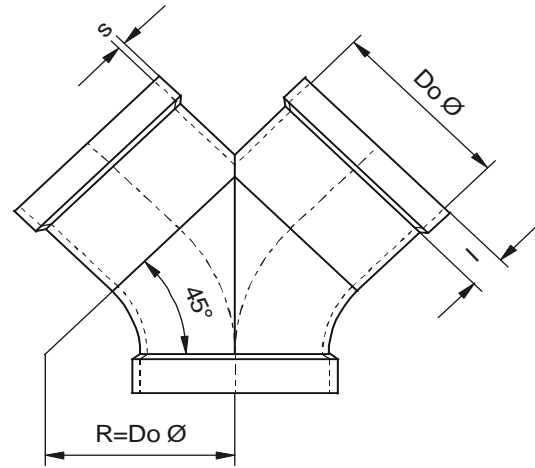
prices are on page 7

We reserve the right change dimension and design !

Material: PVC / PPs / PP / PE



Zeta-factor = 0,25



Zeta-factor = 0,15

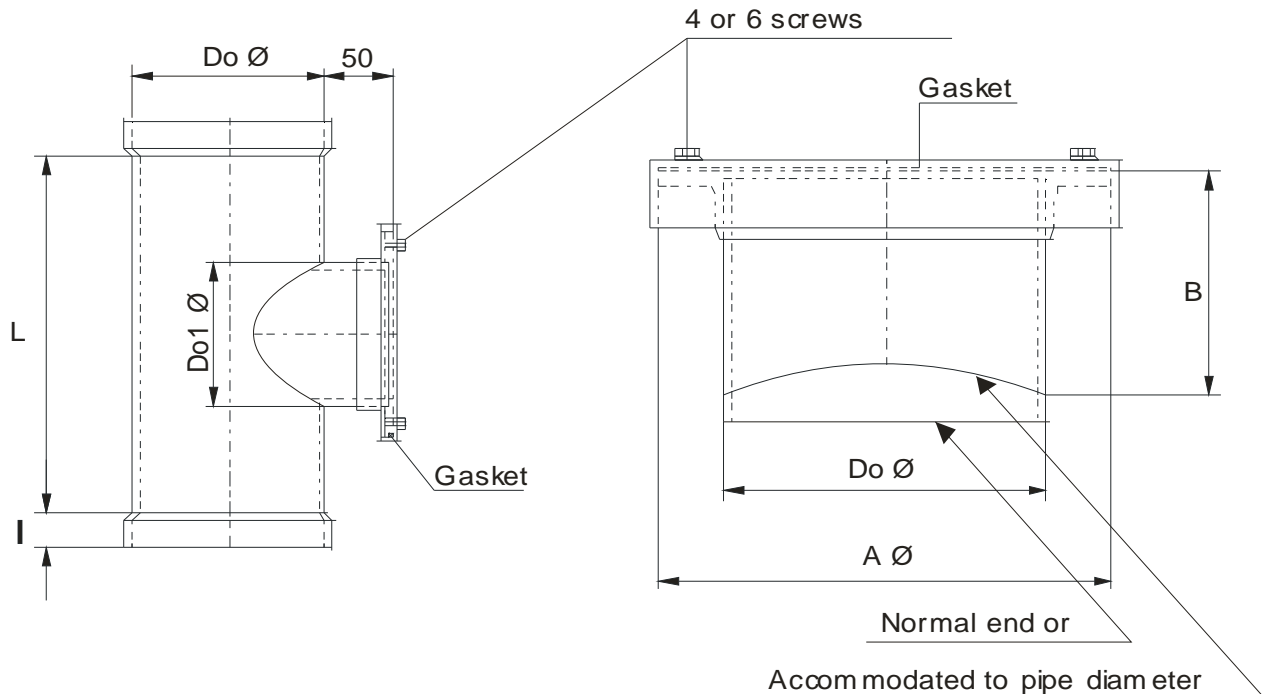
Do Ø	Tolerance		L	I	min. Section s	
	PVC	PPs/PP/PE			PVC	PPs/PP/PE
50	+ 0,3	+ 0,7	150	40	1,8	3,0
63	+ 0,3	+ 0,7	150	40	1,8	3,0
75	+ 0,3	+ 0,7	150	40	1,8	3,0
90	+ 0,3	+ 0,9	180	40	1,8	3,0
110	+ 0,3	+ 1,0	220	40	1,8	3,0
125	+ 0,3	+ 1,2	250	40	1,8	3,0
140	+ 0,4	+ 1,3	280	40	1,8	3,0
160	+ 0,4	+ 1,5	320	40	1,8	3,0
180	+ 0,4	+ 1,7	360	40	1,8	3,0
200	+ 0,4	+ 1,8	400	40	1,8	3,0
225	+ 0,5	+ 1,9	450	40	1,8	3,5
250	+ 0,5	+ 2,0	500	40	2,0	3,5
280	+ 0,6	+ 2,2	560	50	2,3	3,5
315	+ 0,6	+ 2,4	630	50	2,5	4,0
355	+ 0,7	+ 2,7	710	50	2,9	4,0
400	+ 0,7	+ 3,0	800	50	3,2	4,5
450	+ 0,8	+ 3,5	900	60	3,6	5,5
500	+ 0,9	+ 4,0	1000	60	4,0	6,5
560		+ 4,5	1120	60	4,0	6,0
600	+ 1,0	+ 4,5	1200	80	5,0	6,0

From Do Ø 630 upon request

all dimension in mm

prices are on page 8

Material: PVC / PPs / PP / PE



T-pieces with cleaning orifice			
Do Ø	Da 1 Ø	L	I
110	110	210	40
125	125	210	40
140	140	210	40
160	110	210	40
160	160	260	40
180	180	260	40
200	160	260	40
200	200	300	40
225	200	300	40
250	200	300	40
250	250	300	50
280	200	300	50
280	250	300	50
315	250	350	50
355	250	350	50
400	250	350	50

From Do Ø 450 upon request

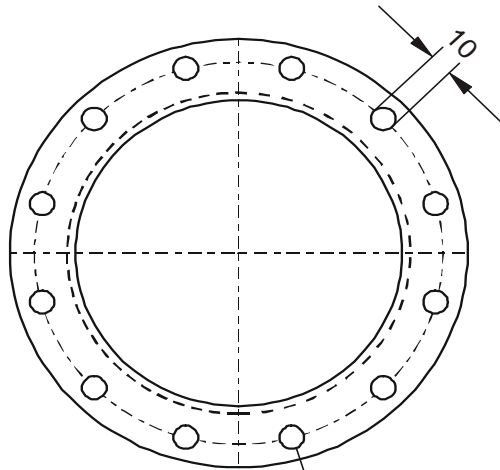
Cleaning orifice		
Do Ø	A Ø	B
110	180	100
125	200	100
140	225	100
160	250	100
180	280	100
200	280	100
225	315	100
250	355	100
280	400	100
315	400	150
355	450	150
400	500	150

From Do Ø 450 upon request

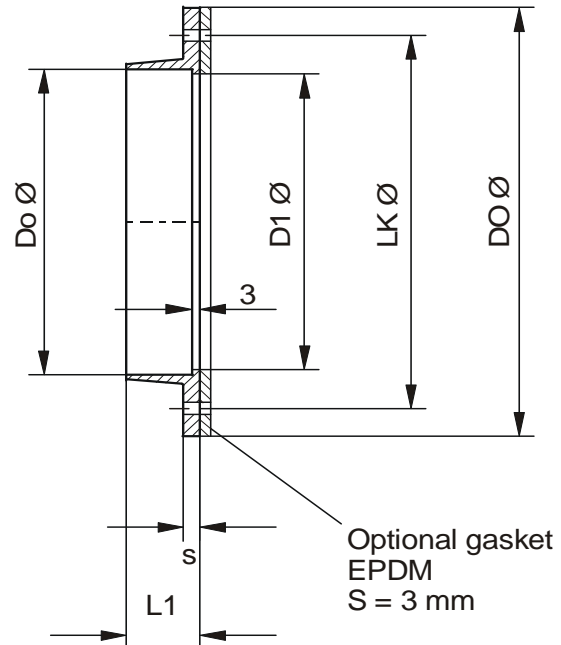
all dimension in mm

prices are on page 9

Material: PVC / PPs / PP / PE



X = number of holes



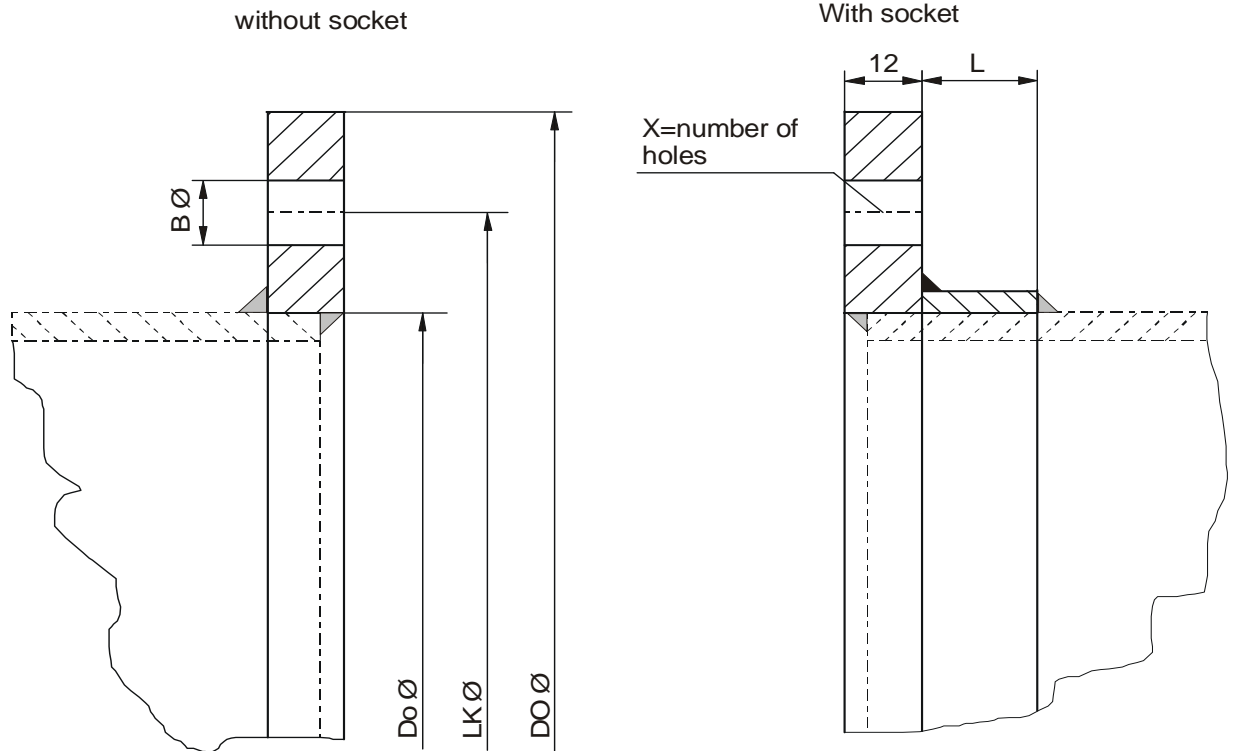
Optional gasket  
EPDM  
S = 3 mm

Do Ø	LKØ	DOØ	x	D1Ø	L1	S
75	110	140	8	69	29	6,5
90	128	158	8	84	29	6,5
110	150	170	8	106	30	8,0
125	165	185	8	122	30	8,0
140	175	200	8	136	30	8,0
160	200	230	8	156	30	8,0
180	220	245	8	176	30	8,0
200	240	270	8	196	30	8,0
225	265	290	8	222	30	8,0
250	290	320	12	246	30	8,0
280	325	355	12	275	30	10,0
315	350	395	12	310	30	10,0
355	400	435	12	349	30	10,0
400	445	475	16	393	30	10,0

More flanges on Page: T 12

all dimension in mm

Material: PVC / PPS / PP / PE



Do Ø	LK Ø	DO Ø	x	B Ø	L
450	510	560	16	10	60
500	560	610	20	10	60
560	610	660	20	10	60
600	660	710	24	10	80
630	710	760	24	10	80
700	760	810	24	10	80
710	760	810	24	10	80
800	866	916	28	10	80

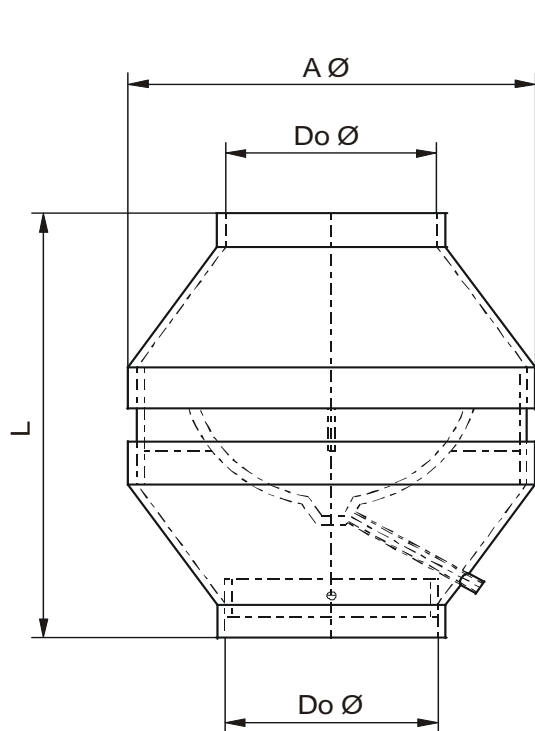
From Do Ø 900 upon request

all dimension in mm

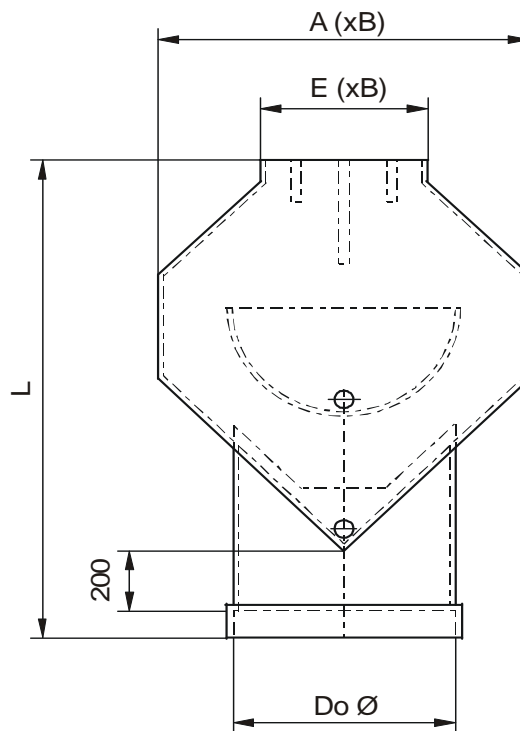
prices are on page 11

We reserve the right to change dimension and design !

Material: PVC / PPs / PP / PE



Zeta-factor = 0,8



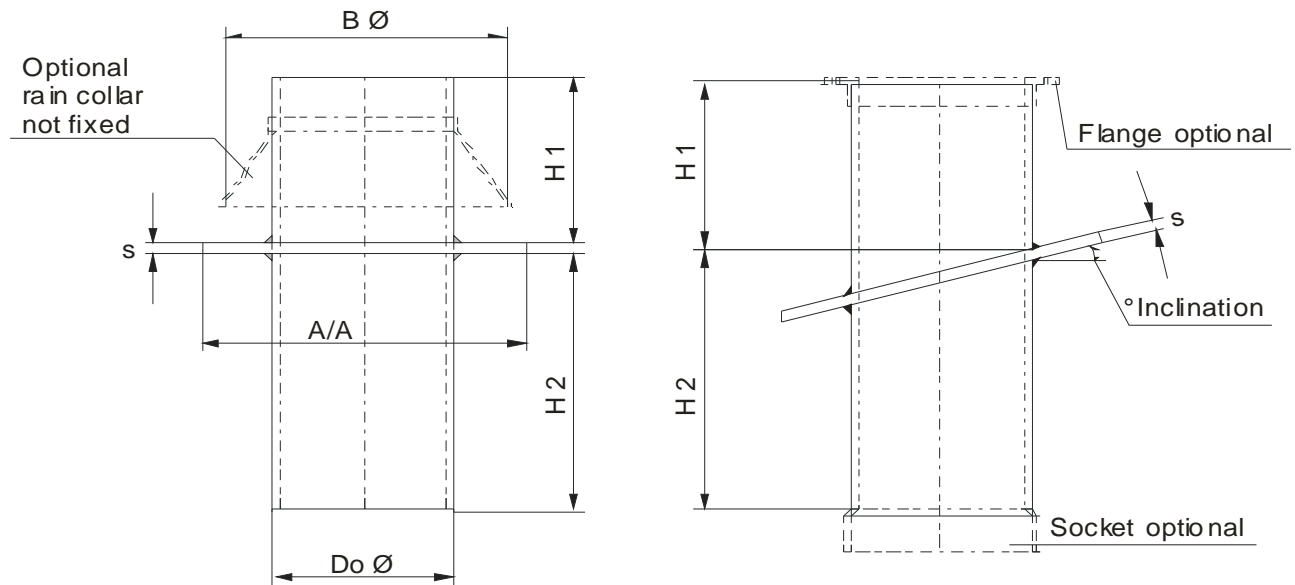
Zeta-factor = 1,8

circular type		
Do Ø	A Ø	L
110	206	290
125	256	340
140	256	320
160	321	410
180	321	380
200	361	410
225	408	430
250	458	470
280	508	520
315	508	440

rectangular type			
Do Ø	L	A (xB)	E (xB)
355	869	590 x 390	266 x 390
400	992	664 x 440	300 x 440
450	1047	747 x 495	338 x 495
500	1140	830 x 550	375 x 550
560	1235	913 x 605	412 x 605
600	1328	996 x 660	450 x 660
630	1423	1079 x 715	488 x 715
700	1516	1162 x 770	525 x 770
710	1611	1245 x 825	600 x 825
800	1704	1328 x 880	675 x 880

From Do Ø 900 upon request

**Material: PVC / PPs / PP / PE**



Do Ø	s	degree 0°			degree 1°- 22°			degree 23°- 45°			B Ø
		A/A	H1	H2	A/A	H1	H2	A/A	H1	H2	
110	8	350 x 350	250	400	400 x 400	300	430	450 x 450	350	450	200
125	8	350 x 350	250	400	400 x 400	300	430	450 x 450	350	460	250
140	8	350 x 350	250	400	400 x 400	300	435	450 x 450	350	470	250
160	8	400 x 400	250	400	450 x 450	300	440	500 x 500	350	480	315
180	8	400 x 400	250	400	450 x 450	300	445	500 x 500	350	490	315
200	8	400 x 400	250	400	450 x 450	300	450	500 x 500	350	500	315
225	10	450 x 450	250	400	500 x 500	300	455	550 x 550	350	510	400
250	10	450 x 450	250	400	500 x 500	300	460	550 x 550	350	525	450
280	10	500 x 500	250	400	550 x 550	300	470	600 x 600	350	540	500
315	10	500 x 500	250	400	550 x 550	300	480	600 x 600	350	550	500
355	10	550 x 550	250	400	600 x 600	300	490	650 x 650	350	570	500
400	10	600 x 600	250	400	650 x 650	300	500	700 x 700	350	600	500

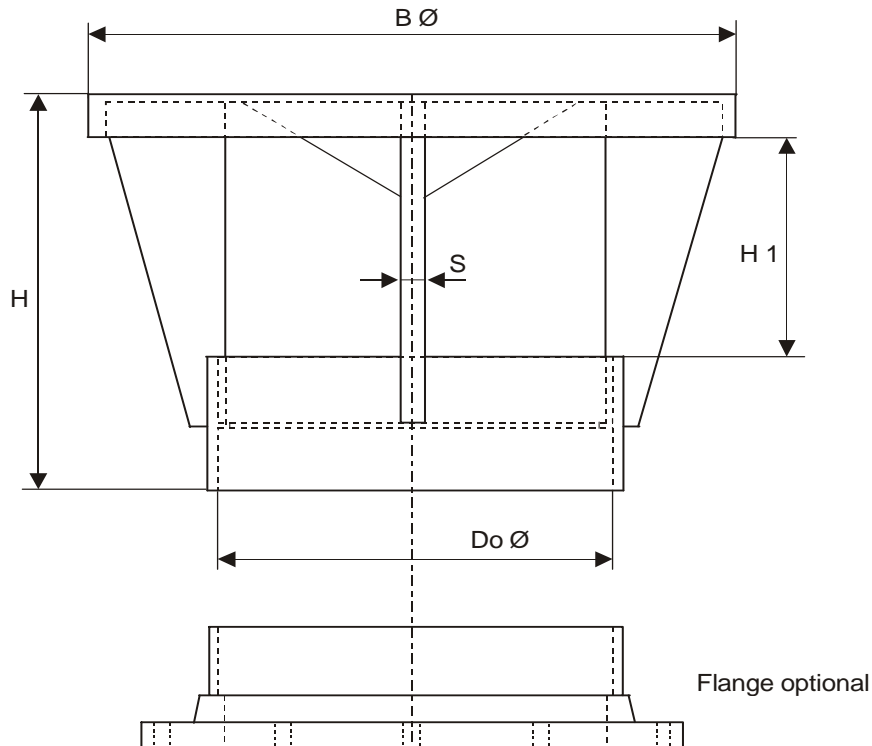
From Do Ø 450 upon request

all dimension in mm

prices are on page 13

We reserve the right change dimension and design !

Material: PVC / PPs / PP / PE



Zeta-factor = 1,5

Outlet cowl with socket				
Do Ø	B Ø	H1	H	S
110	225	55	165	8
125	225	65	175	8
140	250	70	180	8
160	250	80	190	8
180	280	90	200	8
200	315	100	210	8
225	355	115	225	8
250	400	125	235	8
280	450	140	270	10
315	500	160	290	10
355	550	170	300	10
400	600	200	330	10

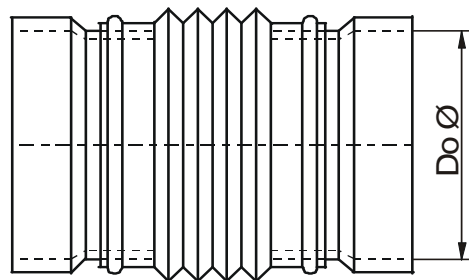
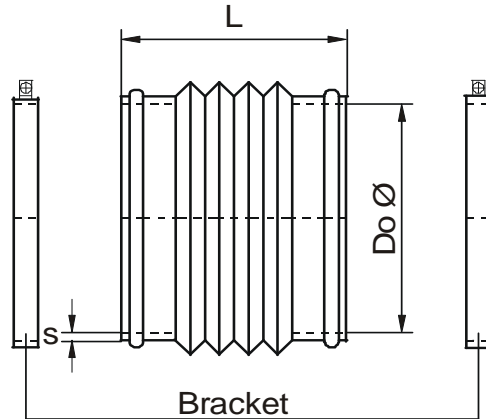
From Do Ø 450 upon request



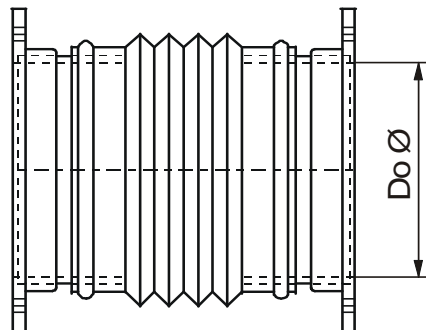
Material: PVC / PPs / PP / PE

Do Ø 75 - Do Ø 400 seamless

Connector in Grey PVC



PVC connector  
with socket in PVC, PPS, PP, PE



PVC connector  
with flange in PVC, PPs, PP, PE

Do Ø	L
75	90
90	90
110	90
125	90
140	150
160	150
180	150
200	150
225	150
250	150
280	150
315	150
355	150
400	150
450	150
500	150
560	150
600	150

From Do Ø 630 upon request

all dimension in mm

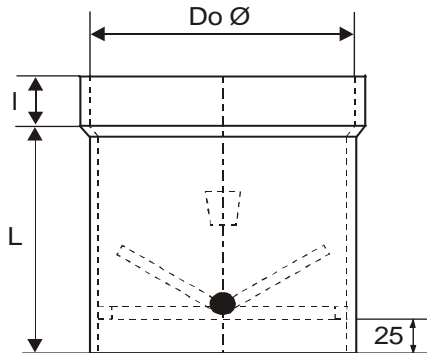
prices are on page 15

We reserve the right change dimension and design !

Material: PVC / PPs / PP / PE

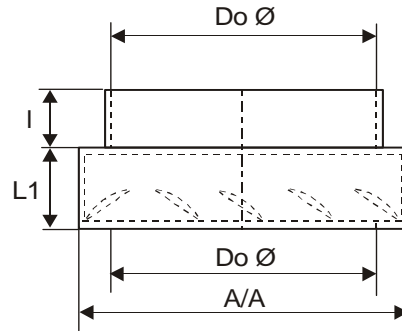
Vertical montage

Model 1



Zeta-factor = 1,5

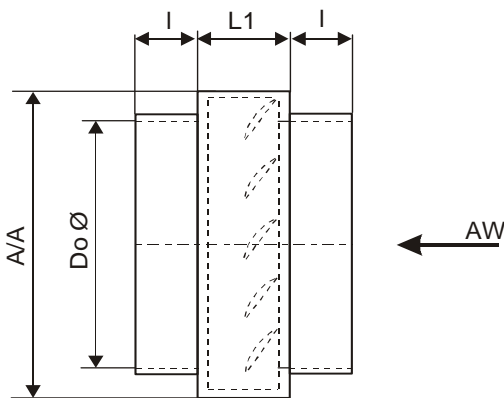
Model 2



Pressure loss on model 2 and 3 on page T19

Model 3

Horizontal montage



With Socket

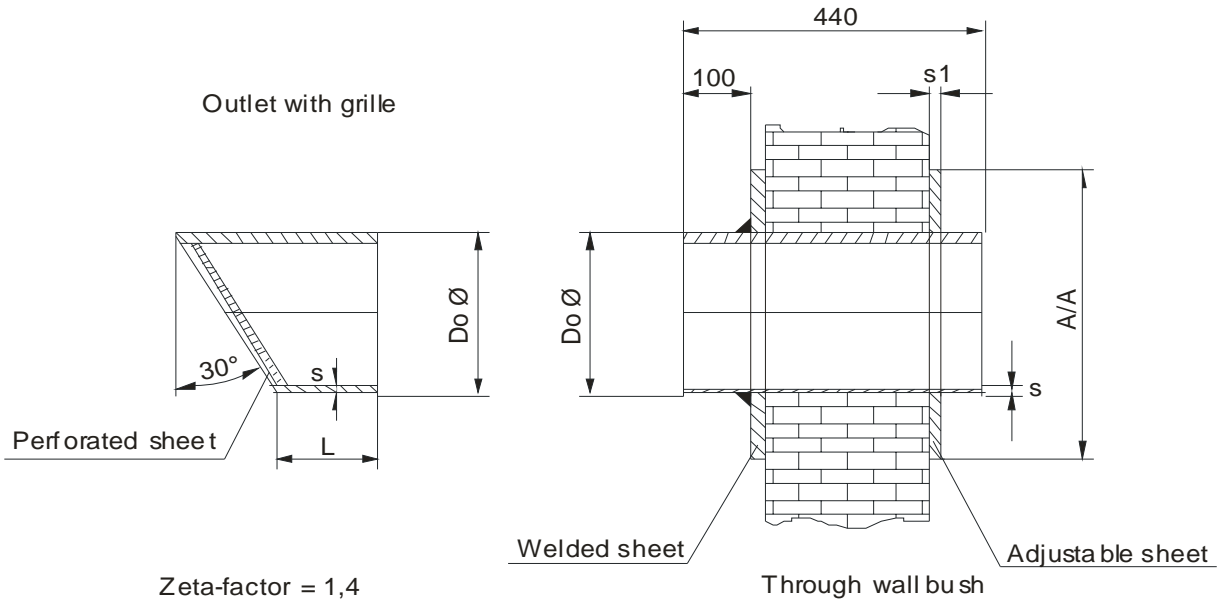
Back flow damper				
Da Ø	L	I	A/A	L1
110	160	40	170	65
125	165	40	170	65
140	170	40	170	70
160	180	40	205	70
180	190	40	205	70
200	200	40	255	70
225	210	40	255	80
250	225	40	305	80
280	240	50	305	90
315	260	50	358	90
355	280	50	408	90
400	300	50	470	120
Lamellas in model 2 and 3 in PVC				
max. air speed 10 m/sec.				

all dimension in mm

prices are on page 16

We reserve the right change dimension and design !

Material: PVC / PPs / PP / PE



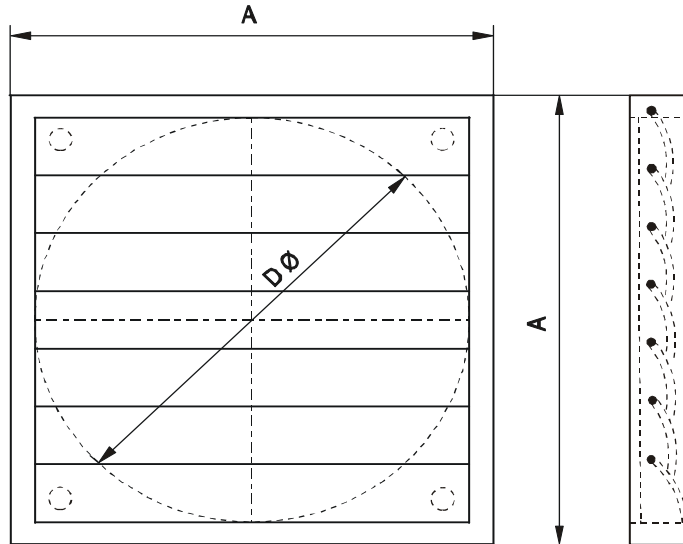
Outlet with grille			
	PVC	PPs / PP/PE	
Do Ø	s	s	L
110	1,8	3,0	100
125	1,8	3,0	100
140	1,8	3,0	100
160	1,8	3,0	100
180	1,8	3,0	150
200	1,8	3,0	150
225	1,8	3,5	150
250	2,0	3,5	150
280	2,3	3,5	200
315	2,5	5,0	200
355	2,9	5,0	200
400	3,2	6,0	200

From Do Ø 450 upon request

Through Wall bush		
Do Ø	s1	A/A
110	5	210
125	5	275
140	5	290
160	5	310
180	5	330
200	8	350
225	8	425
250	8	450
280	8	480
315	8	515
355	8	555
400	8	600

From Do Ø 450 upon request

Material: PVC grey ( RAL 7001 )



Lamellar - shutter  
for outside wall (LVA)

D Ø	LVA	A / A
110/125	12	160
140/160	15	194
180/200	20	244
225/250	25	294
280/315	30	347
355	35	397
400	40	462
450	45	501
500	50	549
600	65	696

**max. air speed 10 m/sec.**

Pressure loss on Lamellar Shutter		
Ø 110/200	100 m³/h	7-9 Pa
	1100 m³/h	60-70 Pa
Ø 225/315	100 m³/h	5 Pa
	1000 m³/h	18-28 Pa
	2800 m³/h	30-60 Pa
Ø 355/400	100 m³/h	3-5 Pa
	1000 m³/h	10-15 Pa
	4500 m³/h	20-28 Pa

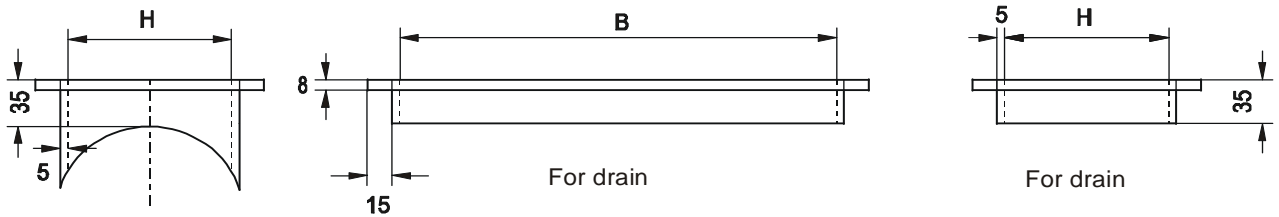
different sizes upon request  
all dimension in mm

prices are on page 19

We reserve the right change dimension and design !

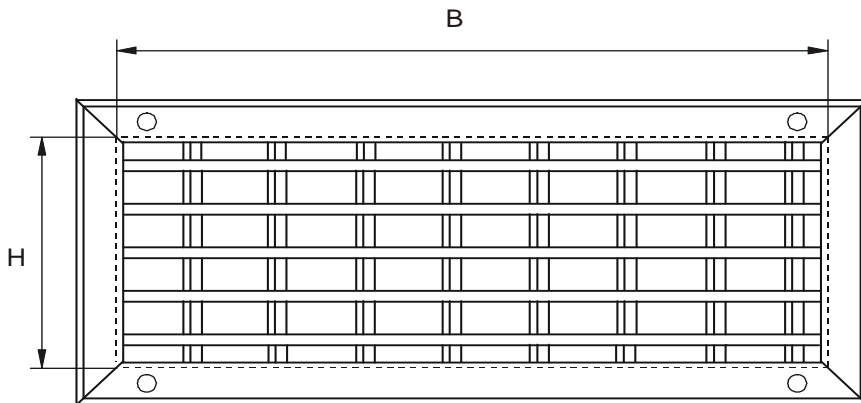
**Material: PVC / PPs / PP / PE**

Frame for inlet and outlet grille



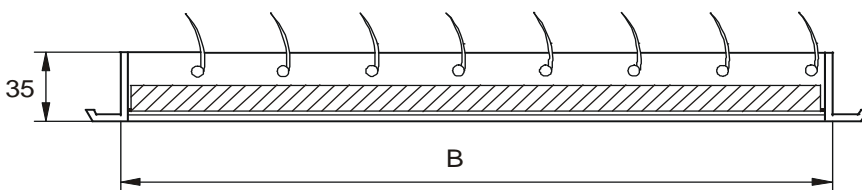
Prepared for pipe Do Ø

Material: PVC grey

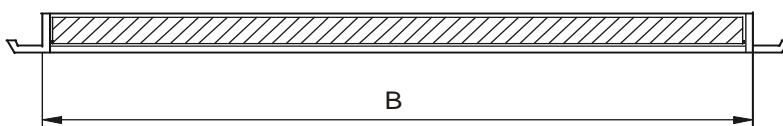


B / mm	H / mm
300	100
400	100
500	100
600	100
300	150
400	150
500	150
600	150
300	200
400	200
500	200
600	200
300	250
400	250
500	250
600	250

Inlet and outlet grille type: LGC



Inlet and outlet grille type: LGA



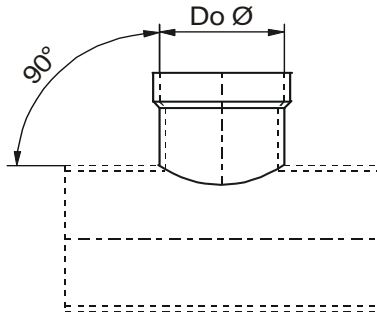
**all dimension in mm**

**prices are on page 20 and 21**

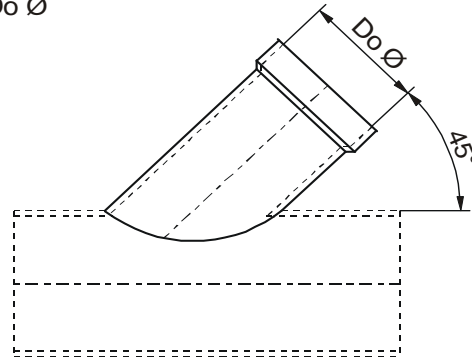
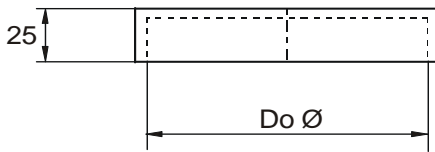
We reserve the right change dimension and design !

Material: PVC / PPs / PP / PE

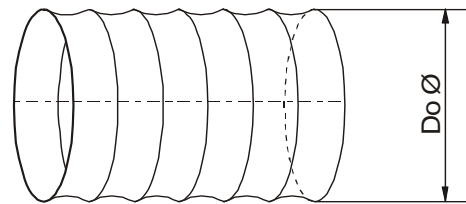
Saddle for welding  
prepared for pipe Do Ø



Endcap



Flexible PVC ducting



## pipe from sheet material

Do Ø	Standardlength/m	Section = S mm					
450	L = 3 m	5 mm					
500	L = 3 m	5 mm	6 mm				
560	L = 3 m	5 mm	6 mm				
600	L = 3 m	5 mm	6 mm				
630	L = 3 m	5 mm	6 mm				
700	L = 3 m		6 mm	8 mm			
710	L = 3 m		6 mm	8 mm			
800	L = 3 m			8 mm	10 mm		
900	L = 3 m			8 mm	10 mm	12 mm	
1000	L = 3 m				10 mm	12 mm	
1250	L = 3 m					12 mm	15 mm
1400	L = 3 m					12 mm	15 mm

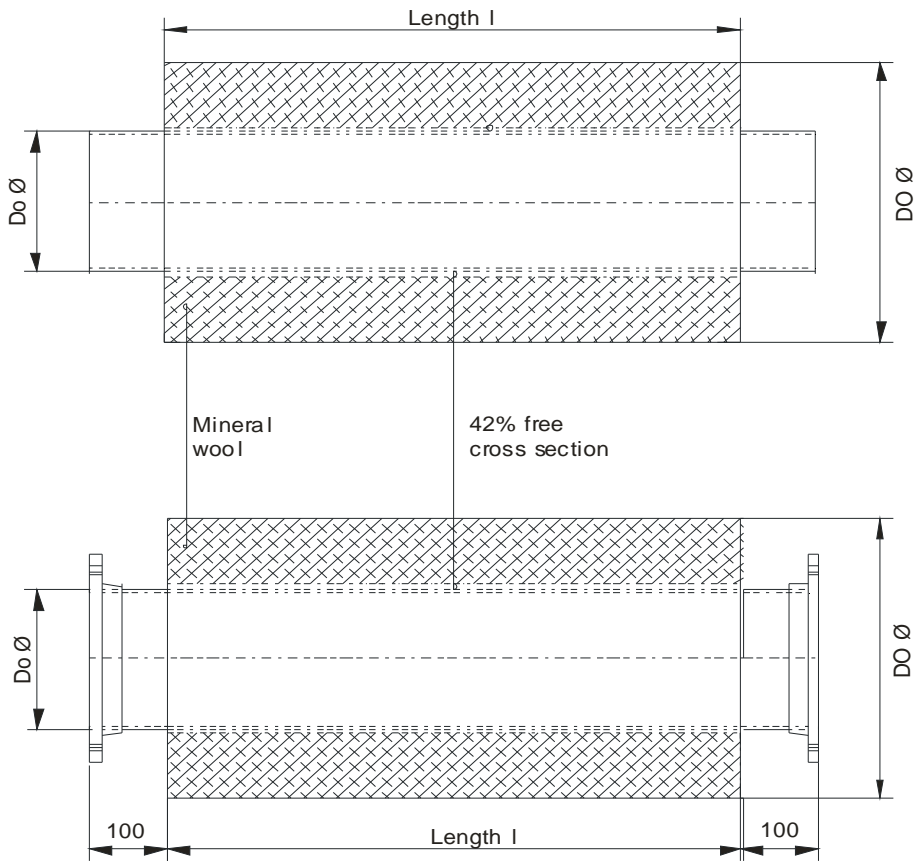
different sizes upon request

all dimension in mm

prices are on page 22, 23 and 24

We reserve the right to change dimension and design !

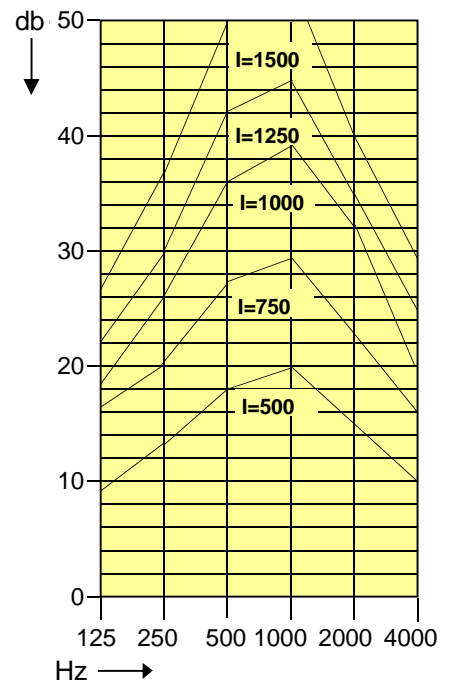
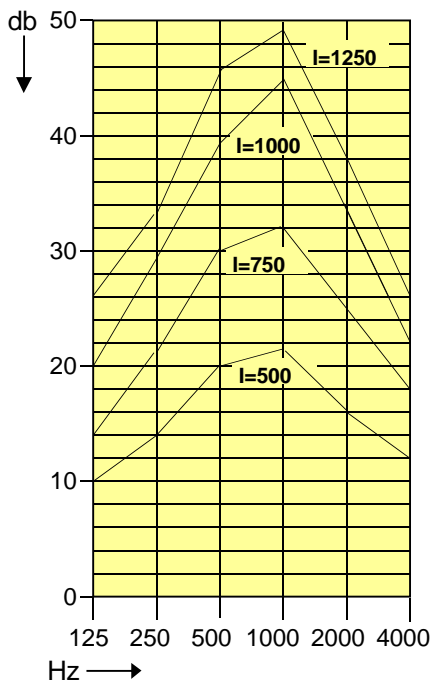
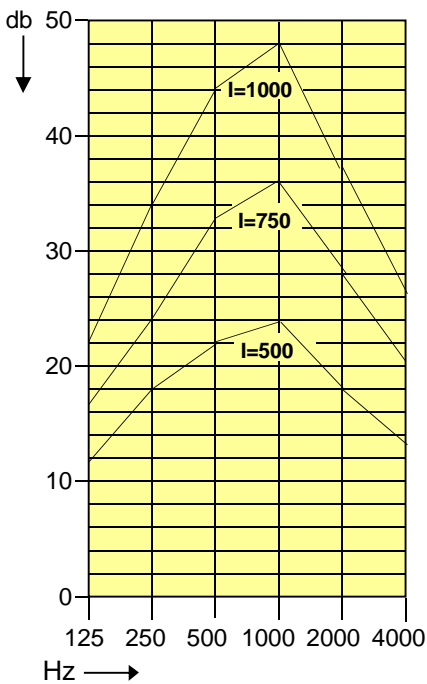
Material: PVC / PPs / PP / PE



Do 75 / 90

Do 110 / 125

Do 140 / 160

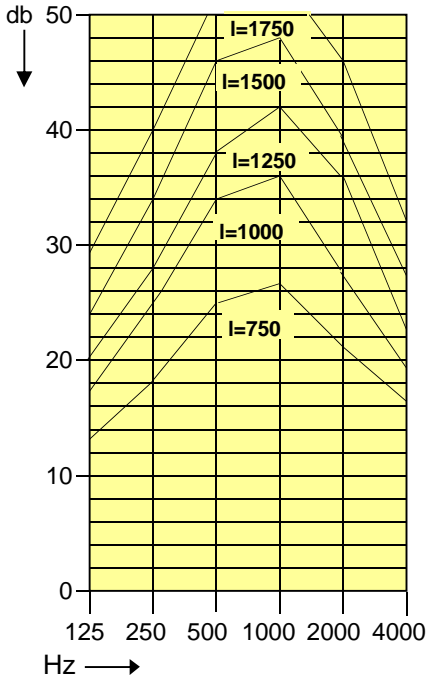


all dimension in mm

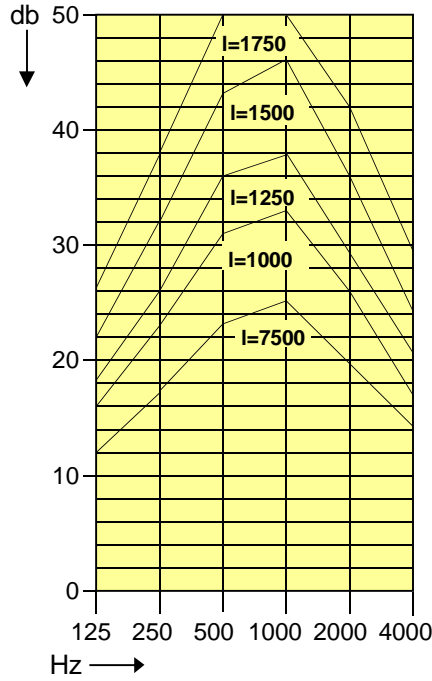
prices are on page 28, 29, 30 and 31

We reserve the right to change dimension and design !

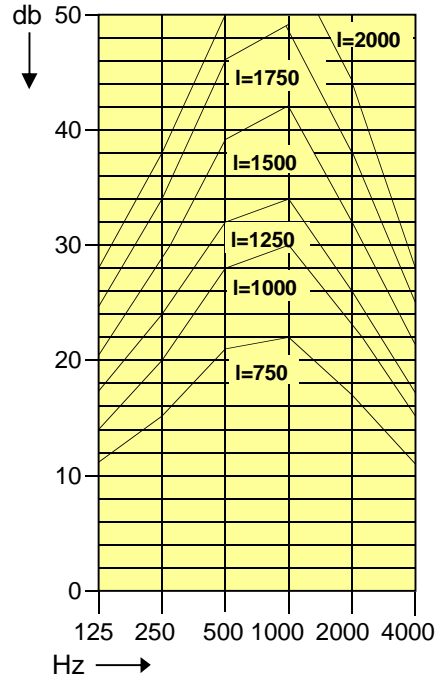
Do 180 / 200



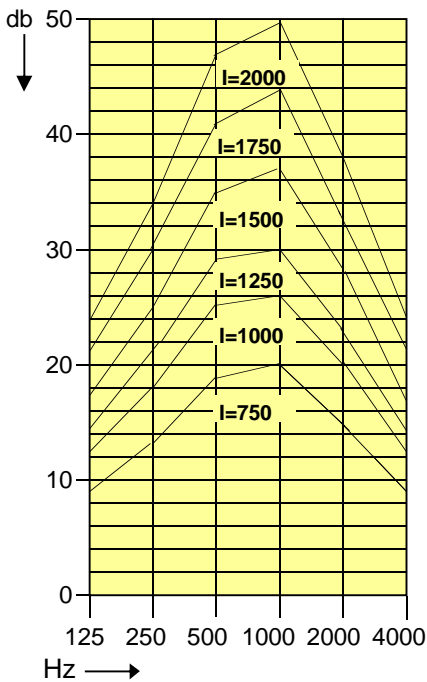
Do 225 / 250



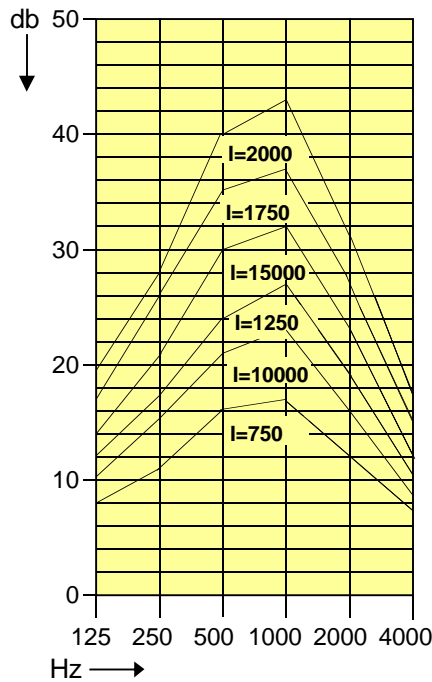
Do 280 / 315



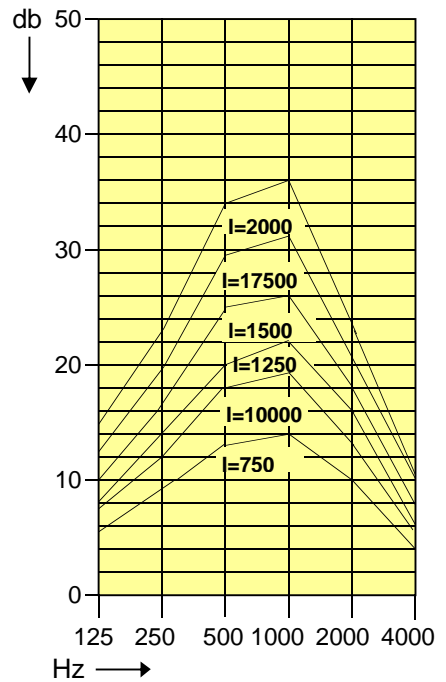
Do 355 / 400



Do 450 / 500



Do 600



prices are on page 28, 29, 30 and 31

We reserve the right to change dimension and design !



## Bases for ventilation installation



Gesellschaft für Lüftungsformteile  
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**All our products are produced  
in line of DIN 1946.**

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**Guideline for airspeed m/s**

<b>Hospital:</b>	<b>2 - 6 m/s</b>
<b>Office, Laboratory:</b>	<b>5 - 8 m/s</b>
<b>Industry:</b>	<b>8 - 12 m/s</b>

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**Dimensions: All products produced in accordance  
with DIN 24147 part 1 - 13**

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**Minimum wallsection for bends:**

<b>PVC</b>	<b>DIN 4740 part 2</b>
<b>PP</b>	<b>DIN 4741 part 2</b>

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**Airleakage by damper control units  
DIN 1946 part 4**

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PVC ducts are manufactured based on DIN 4740 part 5

PP ducts are manufactured based on DIN 4741 part 5

---

**Pressure loss on sound attenuators per mtr.**

**Total length with on air speed.**

5 - 8 m/s      ca.      20 - 25 pascal

8 - 12 m/s    ca.      25 - 35 pascal

12 - 15 m/s   ca.      35 - 45 pascal

---

**Flexible pipe: Dimensions and requirements  
as per DIN 24146 part 1**

---

**Conversion table:**

	<b>Pa</b>	<b>bar</b>	<b>mm WS</b>
<b>1 Pa</b>	1	0,00001	0,102
<b>1 bar</b>	100.000	1	10197
<b>1 mm WS</b>	9,807	0,0001	1

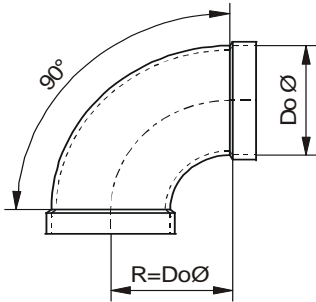
---

**Fire characteristics for fittings in:**

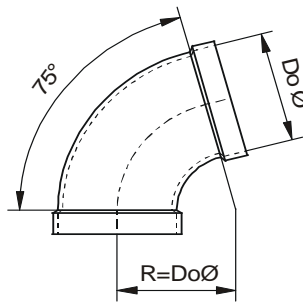
**PVC-U conforms to DIN 4102 B1**

**PPs conforms to DIN 4102 B1**

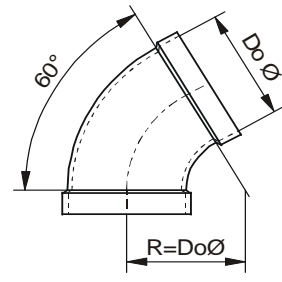
Material: PVC / PPs / PP / PE



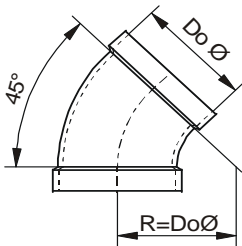
Zeta-factor=0,25



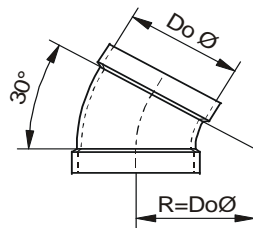
Zeta-factor=0,20



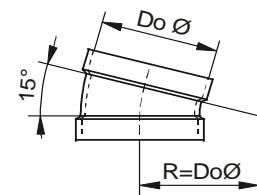
Zeta-factor=0,18



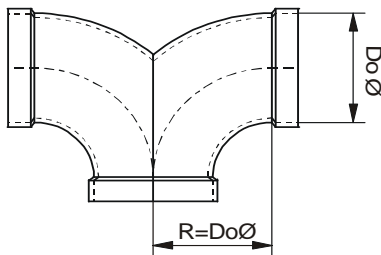
Zeta-factor=0,15



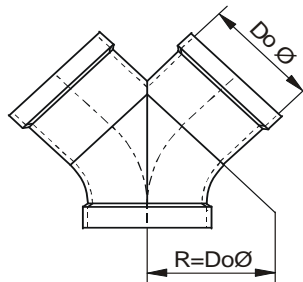
Zeta-factor=0,10



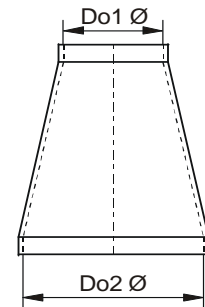
Zeta-factor=0,05



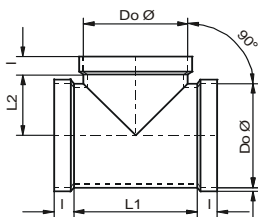
Zeta-factor=0,25



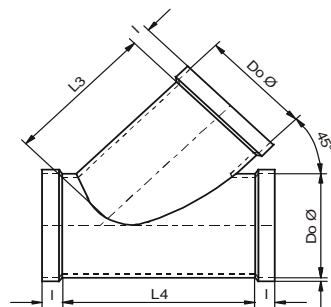
Zeta-factor=0,15



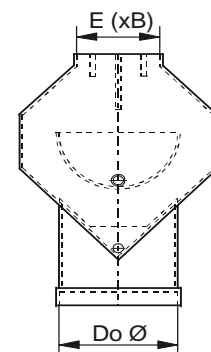
Zeta-factor Do2-Do1=0-0,5



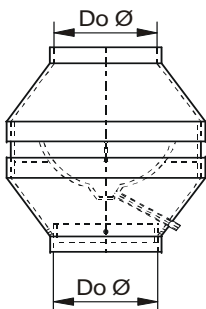
Zeta-factor=1,1



Zeta-factor=0,9

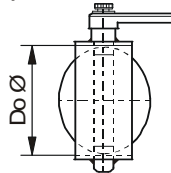


Zeta-factor=1,8

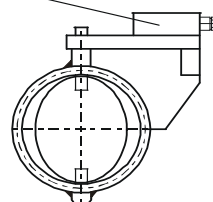


Zeta-factor=0,8

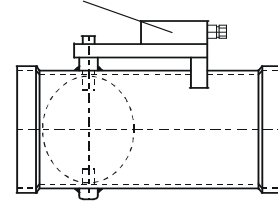
Fixing lever with 7,5°justation



Electr. Drive



Pneum. Drive



Zeta-factor	0,5	1,5	4	11	33	120	250
By flap position	10°	20°	30°	40°	50°	60°	70°

all dimension in mm